Attorney Docket No.: DMJ 2-002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	
Dumont M. Jones	)	
Serial No.: 10/706,352	)	Examiner Kimberly M. Lovel
Filed: November 12, 2003	)	Group Art Unit 2167
For: "Document Search Method With Interactively Employed Distance Graphics Display"	)	

COMMISSIONER OF PATENTS
P. O. BOX 1450
ALEXANDRIA, VA 22313-1450

DECLARATION UNDER 37 CFR 1.132

Dumont M. Jones and Vadim M. Koganov declare as follows:

1) That they are the inventors named in the above-identified application for United States patent;

2) That their curriculums vitae are annexed hereto as an Exhibit A;

3) That they have reviewed a second Office Action developed in connection with the above-identified application which was mailed November 15, 2006;

4) That claims 1-21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,085,755 to Bluhm, et al., (hereinafter Bluhm) in view of United States Patent Application publication No.US2005/0086238 by Nevin, III (hereinafter Nevin);

5) That Bluhm describes a document management system providing for the storage and organization of documents, such management including duplicate detection and an organization of documents based upon attributes organized on what is referred to as a fingerprint of a variety which is sometimes referred to as a word vector;

6) That by contrast, the claims and specification of the present application describe a method for evaluating the text content of a document database wherein nets and document symbols are utilized initially to develop search questions or rules, whereupon the steps of a searching procedure are carried out utilizing the earlier-developed questions or rules;

7) That the Examiner has applied Bluhm at column 26, line 8 through column 27 line 14 with respect to step (d) of claim 1 for fingerprinting said gathered documents;

8) That the fingerprinting described at the pertinent columns of Bluhm sets forth a word vector approach where six most common words in a population are combined with a word count vector and comparison is made to see if two documents are likely to be identical, and that the fingerprinting described in their application is quite different;

9) That this word vector form of fingerprint would render the remaining steps of claim 1 inoperable in that the entire document content must be fingerprinted in order to carry out subsequent steps (h) – (k);

10) That the Examiner has cited column 6, lines 33-47 with respect to step (e) of claim 1 for determining a text criteria with respect to said document population;

11) That the cited column and lines are not relevant to text criteria, the lines describing that documents can be stored in aggregations or collections, whereas the text criteria recited in the step is later evaluated and treated, for instance, in an iterative sense to develop a question or questions to be employed in subsequent searching;

12) That step (f) of claim 1 describes forming a net comprising at least two nodes associated by at least one interaction displayable at the display as two or more spaced apart nodes connected by an interaction, and the Examiner has identified Fig. 1 in Nevin as representing this net;

13) That Nevin provides a collection of nodes which are inter-associated by a relationship while the nodes of the present application are associated with an interaction, specifically, an effective force that attracts documents with related content which is quite different from the relationship wherein the spacing and geometric location of nodes is important to the user;

14) That the spacing and geometric relationship of nodes in the nets of the present invention are entirely arbitrary and of no consequence;

15) That step (g) of claim 1 describes the loading of text criteria into at least one of the nodes, the Examiner rejecting that step with respect to paragraph 0081 of Nevin which describes an organization algorithm and not this text criteria which is utilized with a node to evolve a search question whereupon a search may be undertaken;

16) That step (h) of claim 1 sets forth that for each document of the database, there is calculated geometric relative distance from a node to derive one or more node attractors, and in rejecting this step the Examiner has identified paragraphs 0031 and 0185 of Nevin and commented that the connection strength of the link from one node to another is considered to represent the "relative distance";

17) That Nevin describes that predetermined attribute data is stored into nodes and these nodes are linked by relationships of variable lengths whereas step (h) provides that for

each document of a database its geometric relative distance from one or more nodes is calculated and that there are no documents in Nevin by which such calculation may be carried out, Nevin teaching only graphics defining a relationship between nodes, not between a document and a node, it being reiterated that by contrast the graphics location of nodes in the present invention is merely a matter of convenience;

18) That step (i) of claim 1 sets forth a displaying of the net at the display in combination with one or more document symbols each representing a document located in correspondence with the calculated relative distance, the Examiner identifying paragraphs 0033, 0084 and Fig. 2 of Nevin with respect to this step;

19) That there are no document symbols and calculated relative distance described or suggested in Nevin, which only describes a positioning and relative relationship between nodes;

20) That paragraph 0084 and Fig. 2 of Nevin represent an algorithm to determine what nodes belong together and once a net is developed by Nevin that is the final result, whereas by contrast, in the instant application the net is merely a platform for organizing documents and, as noted, Nevin does not display document symbols or as much as consider such an arrangement;

21) That step (j) of claim 1 provides for visually examining the display of the net and document symbols and this step is identified as being revealed at paragraph 0084, lines 14-17 in Nevin;

22) That Nevin is irrelevant with respect to step (j) inasmuch as there are no documents in Nevin and there is no display of document symbols;

23) That step (k) of claim 1 provides for determining from the document symbol locations at the display, those documents, if any, which are more likely to correspond with said text criteria and the Examiner has identified paragraphs 0313 and 0315 of Nevin commenting that the user determines which categories are considered to be good or bad;

24) That with respect to step (k) of claim 1, paragraphs 0313 and 0315 of Nevin have no applicability, there being no determination with respect to document symbol locations at the display and from those symbol locations determining if any are more likely to correspond with text criteria and that there can be no way to equate step (k) with Nevin;

25) That claim 3 sets forth that step (g) loads the text criteria into a positive designated one of the nodes and the Examiner has indicated that the claim is described at paragraphs 0031 and 0083, lines 4-14 of Nevin, commenting that data is stored in the nodes and that a node can have a positive position;

26) That as noted above, the present invention has no concern with the position of nodes, the technique of Nevin is not concerned with whether a node is positive or negative and, in particular, positively or negatively attracting certain textual content in the sense of the present invention;

27) That claim 4 describes that step (f) forms the net as comprising a positive designated node and a null designated node connected by an interaction and the Examiner, citing Nevin at paragraphs 0083, 0084, lines 4-14 and 0123 states that the last node is used as the null node and the nodes are connected by lines to demonstrate an interaction;

28) That a null node in accordance with the invention is a node which has no content in it and therefore attracts no documents at all whereas Nevin describes that, during data entry if you don't identify the node you are interested in, the program as a default convention will put the argument on the last node and that this has no resemblance to the utilization of a null node as taught in the present invention;

29) That claim 5 describes that said step (e) determines said text criteria as criteria document textual material and the Examiner has cited column 6, lines 33-47 of Bluhm with respect to this component of the claim and that there is nothing in Bluhm that remotely suggests criteria document textual material which is used to evolve a search question as established in claim 1;

30) That step (g1) normalizing said criteria document textual material is being identified by the Examiner with Bluhm at column 22, lines 40-44 and there is no criteria document textual material as much as suggested in Bluhm, let alone its normalization;

31) That step (g2) for fingerprinting the normalized criteria document textual material is said to be seen in Bluhm at column 26, line 8 through column 27, line 14 and that, as stated above, the type of fingerprinting set forth in detail in Bluhm is of a word vector type which would render the subsequent steps from step (g) in claim 1 as inoperative;

32) That claim 6 provides that step (e) determines positive text criteria and negative text criteria with respect to a document population, the Examiner citing Nevin paragraph 0084, lines 4-14 and that Nevin is not concerned with criteria employed initially to evolve a search question and then carry out the steps of a search as set forth in the remaining steps of claim 1;

33) That step (f) of claim 6 provides for the formation of a net comprising one or more positive designated nodes, one or more negative designated nodes and one or more interactions, the Examiner citing paragraph 0084 of Nevin, lines 4-14 and as discussed above, Nevin does not use interactions between positive and negative nodes but uses

relationships generally identified by node position and again as noted above, the position of the nodes with the present invention is arbitrary;

34) That step (g) of claim 6 provides for the loading of positive text criteria into positive designated nodes and negative text criteria into negative designated nodes, and the Examiner has cited paragraph 0031 of Nevin and indicated that data is stored in the nodes, and while data might be stored in nodes, it is stored for a different purpose than the present invention, the present invention storing text criteria to develop a question for a search;

35) That step (h) of claim 6 provides for the calculation for each document of the database, its geometric relative distance from both positive designated nodes and said negative designated nodes and the Examiner has cited paragraphs 0031 and 0185 of Nevin commenting that the connection strength of the link from one node to another is considered to represent relative distance and the Examiner fails to observe that the step at hand is one wherein this distance is calculated with respect to documents and nodes and not between nodes as described in Nevin, Nevin not being concerned with developing a question for carrying out a search, nor a document organization technique, but a technique for graphically representing entity-relationship diagrams;

36) That step (l) of claim 8 provides for retrieving the identification of those documents resulting from step (k), and further, step (m) of that claim provides for reviewing one or more of the documents identified in step (l) and determining the quality of the match thereof with step (e) text criteria, and the Examiner has cited paragraphs 0313 and 0315 of Nevin with respect thereto;

37) That with respect to claim 8, the paragraphs of Nevin which have been cited have no relationship to documents, are not describing the same operation or even a similar operation and are not evaluating the quality of the match of documents with text criteria;

38) That step (n) of claim 9 provides for the identification of new text criteria as a result of step (m) determination of insufficient quality of match, step (o) of claim 9 provides for the adding of the identified new text criteria to the step (g) text criteria loaded in the positive node, and step (p) of claim 9 reiterates steps (h) through (m), the Examiner citing paragraphs 0313 and 0315 of Nevin;

39) That with respect to claim 9, Nevin identifies the properties of nodes precisely and in advance whereas by contrast new text criteria with the present invention is determined to improve a search question and the developed new test criteria is loaded into the positive node whereupon there is a reiteration of steps (h) through (m) and Nevin is not

concerned with documents and the steps constituting a searching of their contents or any other kind of interactive process;

40) That step (q) of claim 10 describes that subsequent to step (m) an identifying and viewing at said display a list of features common to those documents, the identification of which was retrieved in step (s), a step (r) identifying a new text criteria in correspondence with step (q) and viewing features common to those documents, the identification of which was retrieved in step (l), a step (s) of adding the identified new text criteria to the step (q) text criteria loaded into the positive node, and step (t) reiterating steps (h) through (m), the Examiner citing paragraphs 0313 - 0316 of Nevin;

41) That claim 10 looks to the extraction of common features and an iterative process which functions to improve the development of a question for carrying out a search by improving a question or rule and Nevin has nothing to do with such document evaluation but does deal with similarities or relationships between nodes and not documents and interactions associated with nodes, and further there are no search steps in Nevin and no criteria addition to improve the capabilities for carrying out a search and lastly Nevin doesn't carry out steps (q) through (s) and certainly does not reiterate them as set forth at step (t);

42) That step (k1) of claim 11 provides for determining additional text criteria where the document symbol locations are not likely to correspond with such text criteria, and step (k2) provides for adding additional text criteria to the text criteria determined at step (e), the Examiner citing paragraphs 0313-0316 of Nevin;

43) That with respect to claim 11, Nevin is not addressing the subject matter of documents nor the development of a question for search activity associated with documents nor does Nevin address the subject matter of adding additional text criteria to improve a question used for search;

44) That with respect to claim 12, step (l) is carried out by drawing at the display of a net a boundary defining region of the document symbols, the Examiner citing paragraph 0320 of Nevin and indicating that the boundary region is determined by the available screen space;

45) That Nevin at paragraph 0320 is describing the accommodation of a need for arithmetically changing the shape of a net within the space confines of the display, whereas claim 12 selects a grouping of documents by drawing boundaries on the display around document symbols, there are no document symbols in Nevin nor a technique for selecting them;

46) That step (f) of claim 13 provides for selecting a document attribute to be correlated and the criteria for establishing an attribute value match, and the Examiner cites column 6, lines 33-47 presumably of Bluhm;

47) That step (f) of claim 13 is associated with two delimited regions at the display that is further associated with step (g) determining value matched pairs, and column 6, lines 33-47 of Bluhm have nothing to do with the procedures of claim 13, Bluhm being concerned with database management and the partitioning of documents into one or more collections as opposed to the instant method wherein text search attributes are employed which are not database predetermined collections;

48) That step (g) of claim 13 provides for determining the presence of one or more document attribute value match pairs between first and second regions and the Examiner has cited the same column 6, lines 33-47 of Bluhm and there are no document symbols in Bluhm and there are no regions in Bluhm and there are no document attribute value matched pairs in Bluhm;

49) That step (b) of claim 13 provides for forming one or more nets, each comprising at least two nodes associated by at least one interaction, one or more of the nodes representing an evaluation criteria and one or more being viewable at the display, and the Examiner has cited Fig. 1 and paragraph 0081 of Nevin, and Nevin stores all of the data in nodes whereas document criteria are stored in the nodes of the instant invention and further with respect to the entirety of claim 13 there is nothing in Nevin describing how two nets would interact with each other, that is two nets are used together to do a searching feature that neither net could do alone;

50) That step (c) of claim 13 provides for treating the documents to have an attribute value and calculating for each document a geometric relative distance with respect to node criteria and displaying corresponding document symbols, the Examiner citing paragraphs 0031 and 0185 of Nevin, stating that the connection strength of the link from one node to another is considered to represent relative distance;

51) That the Examiner's analysis of step (c) of claim 13 is incorrect for reasons above stated and particularly because Nevin has nothing to do with document symbols nor calculation of relative distance of document symbols with respect to node criteria;

52) That step (d) of claim 13 provides for delimiting at the display a first region of the document symbols, and the Examiner cites paragraph 0031 and Fig. 1 of Nevin stating that linking the nodes together is considered to represent delimiting and the connection of node 1 to node 2 is considered to represent a first region;

53) That with respect to step (d) of claim 13 there is no concept of region at all in Nevin and the Examiner's observation that connecting two nodes together constitutes a region is simply incorrect, and the Examiners indication that linking the nodes together represents delimiting is incorrect and there are no document symbols in Nevin to establish a delimited region;

54) That step (e) of claim 13 provides for delimiting at the display a second region of document symbols and the Examiner has applied the same rejection as provided with step (d) and the Applicants submit that there are no document symbols in Nevin, there are not two regions in Nevin which are delimited, and the linking of node 2 to node 3 does not constitute a region of document symbols;

55) That step (h) of claim 13 displays correlations as are developed in connection with step (g) as they exist between first and second regions, and the Examiner's commentary citing paragraph 0033 of Nevin, stating that the display of nodes based on a location calculated from force parameters is considered to represent displaying correlations is simply and totally incorrect, Nevin being concerned with entirely different subject matter where for correlation two or more nodes are bound in space is unrelated to the invention where correlation is concerned with showing how two nets work together to show how a set of documents are closely grouped within two or more organization systems (nets);

56) That claim 14 provides that step (d) provides a first region extending over more than one net and includes a step (d1) of mapping the first region to a first document set by selecting the union or intersection of documents on different nets, and the Examiner has cited paragraph 0031 and Fig. 1 of Nevin without comment and there are no document symbols in Nevin, there is no development of a search question in Nevin, there is no first region in Nevin, there is no first region extending over more than one net in Nevin, there is no suggestion of mapping of the first region to a first document set by selecting the union or intersection of documents on different nets in Nevin;

57) That claim 15 is similar to claim 14 but provides the second region extending over more than one net and includes the step of mapping the second region to a second document set by selecting the union or intersection of documents on different nets, and the Examiner has cited the same components of Nevin, and the same response provided with respect to claim 14 also applies to claim 15 in that no regions over nets, and no mapping by selecting the union or intersection of documents on different nets is so much as suggested in Nevin;

58) That claim 16 provides that step (f) selects the criteria for establishing attribute value match by defining an attribute value tolerance, and the Examiner has cited column 6, lines 33-47 of Bluhm without comment;

59) That as stated above, column 6, lines 33-47 of Bluhm has no relevance to establishing an attribute value match by defining an attribute value tolerance and there is no suggestion whatsoever in Bluhm of employing tolerance for any purpose;

60) That claim 17, dependent upon claim 16 provides that step (g) determines the presence of a document of an attribute matched pair by determining whether the attribute value of a document in the first region is equal to the attribute value of a document in the second region within the attribute value tolerance, and the Examiner has again referred to column 6, lines 33-47 of Bluhm;

61) That there are no first and second regions suggested in Bluhm, as is quite apparent there is no determination of the presence of a document attribute matched pair between regions within an attribute value tolerance as additionally discussed above in connection with claim 16;

62) That claim 18 recites that step (d) is carried out by providing a computer generated line or lines visible at the display, and the Examiner has cited paragraph 0083 of Nevin;

63) That claim 18 with respect to step (d) draws computer generated lines delimiting a first region of document symbols at the display, that there are no document symbols nor are there regions suggested in Nevin, Nevin only describing the positioning of lines between nodes which basically are representations of some predetermined relationship between two nodes, an arrangement that has no relevance to claim 18;

64) That claim 19 provides that step (e) delimits a second region of document symbols by providing a computer generated line or lines visible at the display, and the Examiner has cited paragraph 0083 of Nevin which, as discussed in connection with claim 18 provides a line which basically is a representation of some predetermined relationship between two nodes which has no suggestion of delimiting a second region of document symbols as well as no suggestion of document symbols at all, and no suggestion of delimiting by computer generated lines about these document symbols;

65) That claim 20 provides that step (h) is carried out by providing a visible line at the display connecting two document symbols and representing the correlation developed in connection with step (g) of claim 13 and the Examiner has cited paragraph 0083 of Nevin and, thus, the commentary given above in connection with claims 18 and 19 applies, but now with respect to providing a visible line between two document symbols

representing a correlation, the present invention having document symbols and nodes, Nevin having only nodes;

66) That claim 21 provides that step (f) selects said document attribute to be correlated and the criteria for establishing an attribute value match through selecting the document attribute or document identification and step (g) identifies the same document in each of the first and second regions as a correlation and the Examiner has cited paragraph 0093, lines 4-7 and 0094 of Nevin in carrying out the rejection;

67) That claim 21 looks to see where a particular document symbol appears in two different kinds of organizations, and Nevin concerns no document symbols, no regions and provides no discussion of correlation but only the relationship between nodes, not document symbols;

68) That they observe that claims 22-24 have been rejected under §103 of the Patent Statute as being unpatentable over United States application publication No. 2004/0078366 to Crooks, et al., (hereinafter Crooks, et al.) in view of Nevin;

69) That Crooks, et al., is an approach wherein there is parsing of a health care order based on the parsing, identification and interpretation of specific keywords, terms and abbreviations, wherein essentially a string-based order is parsed and "normalized", e.g., matched and replaced input with actual terms, to determine specific components such as drug dosage whereupon a distance is assigned using the well-known technique which identifies how many character changes had to be made to achieve a match with the rule-based database, Crooks, et al., not fingerprinting nor comparing fingerprints or employing interactivity or a graphical component;

70) That with respect to step (b) of claim 22 identifying the population of documents to be searched, there is no search of documents in Crooks, et al., but there is a search of a database of rules and only for the purpose of interpreting a medical order, no attempt being made to search for a document, or place the document in any type taxonomy;

71) That step (c5) provides for setting an offset and factor for numeric class, for instance, determining whether a number is within a particular range, the step representing an aspect of achieving a representation of text which is searchable as opposed to the Crooks, et al., approach which seeks an accurate grammatical representation;

72) That step (c8) provides that for each accessed, W, which is a number, converting such a number into a sequence of word numbers, WN, and normalizing these word numbers for fingerprinting, the Examiner citing paragraph 0024, lines 1-28 of Crooks, et al., and Crooks, et al., has nothing comparable to normalizing word numbers as, WN;

73) That step (c9) of claim 22 provides for marking the position and link of each, W, or normalized word number, WN, and the Examiner has cited paragraph 0026, line 31 et seq., of Crooks, et al.;

74) That Crooks, et al., at the above cited paragraph and line is concerned with an attempt to find an approximate match with the rule database, when an exact one cannot be found, the number of letters required to be changed to match a rule term in the database representing a distance, and such an approach has no relationship to the recitation of step (c9);

75) That step (c10) of claim 22 provides that for each, W, or normalized, WN, completing the normalization by reiterating steps (c8) and (c9), and the Examiner has cited paragraph 0026, lines 10-12 of Crooks, et al., with the commentary that refining is considered to represent repeating;

76) That with respect to the Examiner's commentary concerning step (c10) and the term "refining", the present invention is doing an iterative process to achieve optimal normalization while Crooks, et al., strives to obtain word matches and then refine by eliminating the junk, and there is no relationship between these methods nor their purpose;

77) That step (d) of claim 22 provides for fingerprinting the normalized documents, the Examiner citing paragraphs 24-26 of Crooks, et al., and that there is no fingerprinting whatsoever taught by Crooks, et al.;

78) That step (e) of claim 22 provides for forming one or more nets each comprising at least two nodes, one or more said nodes representing an evaluation criteria, said one or more nets exhibiting two or more spaced apart nodes connected by one or more interactions, the Examiner citing Fig. 1 of Nevin, and they reiterate commentary made in connection with claim 1 at step (f);

79) That step (f) of claim 22 provides that for each normalized document, calculating its geometric distance from a said node, the Examiner repeating the rejection made in connection with step (h) of claim 1 and they reassert their response concerning step (h) of claim 1;

80) That step (g) of claim 22 provides for displaying one or more nets at the display in combination with one or more document symbols representing a said document located in correspondence with said calculated relative distance, the Examiner citing the same component of Nevin as cited with respect to step (i) of claim 1 and they reassert their response to that rejection in response to this rejection;

81) That the final step of claim 22 provides for determining from said document symbol locations at said display, if any, those documents which are more likely to correspond with said evaluation criteria, the Examiner repeating the rejection asserted in connection with step (k) of claim 1 and the argument set forth therein is repeated for this rejection;

82) That claim 23 provides for steps (c8.1) through (c8.8) describing in detail step (c8) of claim 22 and all being rejected based upon paragraphs 0030 - 0032 of Crooks, et al., and that Crooks, et al., neither carries out nor suggests any of these steps;

83) That more specifically with respect to claim 23, step (c8.1), Crooks, et al., merely determines the presence of a date and uses it directly while the present step is developing a record that can be used for searching, Crooks, et al., carrying out no conversion to a float or integer and with respect to step (c8.2) applying an offset and factor to improve fingerprinting which Crooks, et al., does not carry out whatsoever;

84) That with respect to steps (c8.3)–(c8.8) there is no similarity or purpose in any way related to the teachings of Crooks, et al.;

85) That claim 24 describes that step (c8.3) further comprises the step (c8.3.1) setting the precision of, P, the normalized word number, WN, and step (c8.8) is carried out until the number of said successive positions, S, deriving said second component equal the value of said precision, R, the Examiner citing paragraphs 0030-0032 of Crooks, et al., in rejecting the claim;

86) That with respect to claim 24, Crooks, et al., is not utilizing precision, presumably for good reason, that one would not wish to use that approach in dealing with medical applications and both components of this claim utilize a precision function;

87) That all statements made herein of their own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made, are punishable by fine, or imprisonment, or both, under § 1001 of Title 18, and that such willful false statements may jeopardize the validity of the application or any document resulting therefrom.

Further Declarants sayeth naught.

Date Feb 9, 2007 — Dumont M. Jones

Dumont M. Jones

Date Feb 9, 2007 — Vadim M. Koganov

Vadim M. Koganov

EXHIBIT A

Dumont M. Jones, Ph.D.
Proximate Technologies, LLC
Black Bear Software Engineering, LLC
55 N. Cassingham Road
Columbus, OH 43209
telephone: (614) 258-8835
facsimile: (614) 258-8834
email: dumont.jones@prxt.com

Summary: **Information discovery and analysis**
- **Software design and development**
- **Materials/chemical engineering and business applications**

History:

2002-Present: **Principal, Proximate Technologies, LLC Novel information analysis and chemistry-related applications**

- **Materials informatics techniques.** Co-developed, in collaboration with a national laboratory, materials-informatics techniques for the design of improved inorganic gamma radiation detector materials. [Publications in preparation.]
- **New materials informatics database.** Designed and implemented, in collaboration with a national laboratory, an improved materials database, to more effectively store, interrogate, and connect generic materials properties. Emphasis on partially-defined systems, and heterogeneous or conflicting property data. [Publication in preparation.]
- **New materials design-propane cylinders.** Proposed, in collaboration with client engineers, several composite-material propane cylinder design improvements for enhanced behavior under flame testing.
- **Computer-assisted materials design platform.** Chief architect of a client R&D software platform for chemical and materials design, which allows designers to move from design requirements to physical materials, using rule-driven information discovery and optimization techniques. [Publication available.]
- **New materials design-acoustics.** Generated suitable candidate chemistries for a client acoustical coupling application.
- **New materials design-fiber coating.** Generated suitable candidate coating chemistries for a client polymer-coated silica fiber application requiring low refractive index.
- **Materials modeling of multi-phase behavior.** Co-authored a new model to ascertain whether certain inorganic compounds will exhibit single- or multi-phase behavior. [Publication available.]
- **New information searching technique.** Primary design of software to facilitate visual searching and analysis of generic data entities, including unstructured text documents. [Associated patent application filed and published.]
- **Other.** Various information discovery and analysis consulting projects for chemical-design and business applications. Application examples available on request.

1993-Present: **Principal, Black Bear Software Engineering, LLC. Software development and business-intelligence applications**

- **Data warehouse implementations. (Specialty Finance and Banking Company)** Implementation of two data warehouses for conventional accounting and specialty financial servicing data. Included the creation of a custom mechanism (contra records) to handle changes or deletions in facts over time.

- **Assessment: porting legacy C application to java/javascript (Electronics Company)** Provided an assessment and projected the level-of-effort for porting a legacy C application (which calculated custom equipment details, and provided an electronic customer catalogue) to a data-driven, XML-configurable java/javascript/tomcat environment.

- **Reporting System external security Integration with SAP Portal (Federal Agency)** Integration of Actuate security with SAP security for a 60,000-user system.

- **Custom tracking of complex data changes over time for a business warehouse (Insurance Company)** Created an application to augment a business warehouse implementation, by accurately accessing each insurance policy status over time from legacy data, and providing corresponding policy status counts.

- **Reporting system external security integration, and automated Actuate import/export facility (Credit Unions, Federal and commercial banks, Pharmaceutical Companies, Automotive Company)** Integration of Actuate security with LDAP systems, Cleartrust APIs, conventional databases, and OLAP user repositories.

- **Reporting System Archival and Encyclopedia cleanup (Telecommunications Company , Credit Union, Banks)** Implemented facilities to automatically import or export an Actuate server encyclopedias from a secondary server, for initial builds and disaster recovery.

- **Development of Tools for Report Server Integration and Development**
  - Designed and developed an adapter to allow Actuate v3-7 development in visual basic and other COM-compatible clients (e.g. web pages) rather than the native Actuate C++ API.
  - Designed and developed an adapter for flexible integration of Actuate with LDAP. Encapsulates and largely eliminates use of the LDAP Client C API.
  - Co-designed and developed a one-button printing solution for Actuate reports.
  - Above tools sold as products by client.

- **Environmental modeling support**. Developed an application to interact with a remote environmental modeling server and display modeling results.

- **Airport weather data processing support**. Developed several applications to gather, process, and display weather data from airport weather measuring systems.

- **Other**. Various applications for data visualization or modeling support. Application examples available on request.

1989-1993: **Software Development Scientist, Tripos Associates, Inc., St. Louis, MO.**
- Design and development of the Tripos Open Force Field System.
- Development of Quantitative Structure-Property Relationships (QSPR) for chemical properties and related software.

1987-1989: **Postdoctoral Research Assoc, University of Massachusetts, Amherst, MA.**
- Conducted theoretical studies of polymer solutions and suspensions, resulting in three open-literature publications.

Technical Skills:

- Information-analysis and knowledge discovery for business and chemical-design applications
- Predictive statistical model design.
- Software design and implementation on Windows/Unix/Linux platforms. Languages as required, including Java/C++/C

Education:

- Ph.D. Chemical Engineering, University of Minnesota, Minneapolis, MN; December, 1986. Advisor: Prof. John S. Dahler. Dissertation Title: On the Theory of Laser-Assisted Collision Processes.
- B.S. Chemical Engineering, University of Wisconsin at Madison, Madison, WI; September, 1985. Advisor: Prof. M. Morari. Research topic: Organic synthesis.

Publications/ Presentations:

- 16 articles and presentations in the open literature. Recent publications (2005,2006) concern models for evaluating whether inorganic compounds will be single- or multi-phase, and an outline of the Application-Driven Chemistry platform mentioned above. Details available on request.
- Several articles in press concerning the development of informatics algorithms and platforms for materials design (crystal structure; creation of luminosity structure-property relationships, structures for accurate storage and retrieval of materials properties in databases, and accurate reduction of heterogeneous materials data sets).

EXHIBIT A

Vadim Koganov

Home Phone: (740)881-3859
Mobile Phone: (614)783-8844
vkoganov@columbus.rr.com
8180 Trail Lake Drive
Powell, OH 43065

STRENGTHS

- 11 years experience in information systems architecture, design and development with emphasis on enterprise systems and applications.
- Extensive knowledge of the object-oriented development process.
- Microsoft Certified Solution Developer (MCSD, MCP).
- MBA degree in Technology Management

Languages: C#, VB.Net, Java, Visual Basic, XML ,XSLT, SQL, DHTML, JavaScript, C++, etc

Operating Systems: Microsoft Windows 2003/2000/NT/ 9x, Linux, UNIX.

Development Tools: MS Visual Studio 2003/2000/6.0, BizTalk Server 2002/2004, Jbuilder, UML/Rational Rose, MS Visual Source Safe, etc

EXPERIENCE

Software Architect/Developer (Ind.) March 2000 – present
Silicon Motif, Inc., Columbus, OH

Major Clients:
Ohio Department of Education, Columbus, OH
Solution Architect

- Architected, designed and led development of a brand-new integrated suite of applications composing a state-wide educator information and licensure system; was solely responsible for the development of the overall technical architecture and design;
- Designed, developed specifications for and oversaw the development of over 30 .Net Web Services composing the business tier of the Service-Oriented Architecture for the said educator information and licensure system;
- Architected and developed a set of enterprise infrastructure components, including reliable logging and configuration-based navigation;
- Designed and led development of over 10 large-scale ASP.Net web applications;
- Provided technical expertise, direction and leadership to the team of five developers;
- Designed and developed a large-scale data conversion and delivery system that performs transformation of statistical data from raw XML and Oracle database queries to a multitude of user-viewable documents, including HTML, SpreadsheetML, and native Microsoft Excel files;
- Architected and implemented monitoring services allowing on-demand data conversion and presentation through using a set of converter components;
- Developed a set of complex XSLT transformations;
- Provided technical know-how and direction to the development team ;

Tools: VS.Net 2003 /C#, XSLT, Oracle 9i, DHTML, XML-Spy 2005, Log4net, Aspose.Excel
Environment: Windows 2003/XP

American Health Holding, Inc., Columbus, OH
System Architect

- Architected, designed and developed an integrated suite of healthcare applications (Utilization Review, Case Management, etc) that serves as the main mission-critical system for the nationwide corporation;
- Designed and implemented a .Net Remoting-based data access infrastructure now utilized by several of the enterprise applications;
- Designed and developed a custom .Net-based XML rules engine to support medical necessity

continued...

EXPERIENCE (continued)

decision making process and workflow;
- Developed architectural approach and implemented a complex trading partner integration (import/export) solution (Microsoft BizTalk Server 2002);
- Architected and developed a complete electronic document generation, editing, and storage system with a web-based front end;
- Designed and developed a customizable thin-client reporting system;

Tools: VS.Net 2003 /C#/ VB.Net/ASP.Net, MS BizTalk Server 2002, MSMQ, ASP, MS XML/XSLT, DHTML, MS SQL Server 2000, MS Visual Basic 6.0, Crystal Reports
Environment: Windows 2000/2003/XP

Interstate Gas Supply, Columbus, OH
Solution Architect
- Architected and developed a multifaceted trading partner integration (import/export) solution (Microsoft BizTalk Server 2004);
- Designed, developed and implemented an n-tier GISB-compliant electronic data delivery system, including custom HTTP data upload mechanism, dispatch system service, and a management and administration web application.
- Integrated a variety of formats including multiple EDI transaction sets utilizing BizTalk Covast EDI Accelerator;
- Designed and implemented multiple complex processes utilizing MS BizTalk 2004 Orchestration;

Tools: VS.Net 2003 /C#/, MS BizTalk Server 2004, XML/XSLT, MS SQL Server 2000
Environment: Windows 2000/XP

Proximate Technologies, LLC – Columbus, OH
System Architect
- Developed architectural approach and implemented the data repository and the server-side application for information discovery and visualization solution;
- Designed and developed a Web-based query building and execution tool for interaction with and management of a complex data search engine;
- Co-authored a state-of-the-art data analysis solution (application for U.S. Patent Serial number 10/706352 - "Document Search Method with Interactively Employed Distance Graphics Display.")

Tools: VS.Net 2003/C#/ VB.Net, C++, MS XML/XSLT, MS SQL Server 2000, MS Visual Basic 6.0
Environment: Windows NT/2000/2003/XP

Charles River Associates, Inc. – Boston, MA
System Architect
- Envisioned and developed a large-scale data aggregation process and tax simulator which was used to generate local and state tax projections and calculations;
- Tuned and optimized the performance of the SQL Server tax data repository;
- Developed a dynamic reporting system capable of aggregating and summarizing large volumes of data produced by the tax simulator;

Tools: MS SQL Server 2000, MS Visual Basic 6.0, Crystal Reports
Environment: Windows NT/2000

EXPERIENCE (continued)

Donatos Pizzeria, Inc. – Columbus, OH
System Architect
- Designed, developed, and deployed a distributed order management and fulfillment solution to support online ordering;
- Optimized and tuned MS OLAP-based data warehousing solution;
- Developed and deployed a messaging application allowing for sharing and publication of the best practices for the stores nationwide;
- Architected and implemented an extensible intranet security architecture;

Tools: C#/VB.Net, Java 2, Sun J2EE, JMS, Apache Xerces, Exolab Castor, XML-RPC, XML/XSLT, DHTML, MS SQL Server 7.0/2000, SOAP, MS Visual Basic 6.0, Visual Studio 6.0
Environment: Linux, Windows NT/2000

Technical Project Leader January 1998 – October 2000
Compuware Corporation, Columbus, Ohio.
- Designed and developed electronic bill presentment and payment system based on CheckFree I-Solutions engine;
- Led design and development of the web-based dynamic bulletin distribution application;
- Designed and implemented extra-net security system based on ADSI and MS Site Server Personalization & Membership LDAP directory;
- Developed international n-tier web-based credit application and automobile payoff systems;
- Designed and developed a set of Automated Clearing House (ACH) applications;

Tools: IIS, MS Site Server 3.0, MTS, Active Server Pages, XML, DHTML, MS SQL Server 6.5/7.0, ADO, RDS, RDO, MS Visual Basic 5.0/6.0, MS Visual InterDev 1.0/6.0, MS Visual Modeler, Visual Source Safe;
Environment: Windows NT;

Software Engineer/System Administrator December 1996 – January 1998
American Heartland, Inc., Columbus, Ohio.
- Architected and developed set of front-end applications in VB 5.0;
- Designed and implemented relational database schema and developed over 400 stored procedures in SQL Server 6.5;
- Developed a 3-tier intranet reporting system;
- Created and supported company's World Wide Web site with online order processing system;

Tools: SQL Server 6.5, RDO, ASP, Visual Basic 5.0, Visual InterDev, Java, JavaScript, VBScript
Environment: Windows NT/95

DBA/Network Administrator April 1995 – December 1996
American Heartland, Inc., Columbus, Ohio
- Designed, installed and administered Windows NT/95 network.
- Developed relational database schemas.
- Designed, administered and updated information systems based on Microrim R:Base RDBMS

Tools: MS Fox Pro, Microrim R:Base, Lantastic
Environment: Windows 3.1/95.

Software/Hardware Consultant 1994 – 1996
PhytoLife Sciences, Inc. Columbus, Ohio.
- Set up communications between the U.S. and Moscow, Russia
- Designed and implemented the corporate World Wide Web site

Environment: UNIX

EDUCATION

M.B.A., Concentration: Technology Management, GPA 3.82. 1999
Franklin University, Columbus, Ohio.
Thesis: Software Development Project Management.

B.S., Computer Science, GPA 4.0 1996
Franklin University, Columbus, Ohio.
President's Honors.

ADDITIONAL

U.S. Citizen,
Fluent Russian.

REFERENCES AVAILABLE UPON REQUEST